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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,925

08/10/2007

Erwin Oser

5151-19PUS

4759

27799

7590

08/11/2011

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EXAMINER

NGUYEN, HOANG M

ART UNIT

PAPER NUMBER

3748

MAIL DATE

DELIVERY MODE

08/11/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,925	<b>Applicant(s)</b> OSER ET AL.	
	<b>Examiner</b> HOANG NGUYEN	<b>Art Unit</b> 3748	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21, 24-36, 38, 39 and 41-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21, 24-36, 38-39, 41-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

Applicant's amendment dated April 14, 2011, has been fully considered.

Applicant argued the newly added "suction chamber" overcomes the pending rejection because the suction chamber of the root blower is different from the intake of the expander. The Examiner disagrees. First, the independent claims only recite the suction chamber, not both intake and suction chamber, any intake of any expander has the suction function and can be considered as suction chamber. Second, the outlet pipe of the injection pump 18 can be considered as the suction chamber of the expander too because it's connected directed to the expander, note the primary reference, Lawheed, already teaches the root blower.

The Examiner would like to suggest the following to put this case in condition for allowance: reinstate the triple rotors back to the independent claims and clearly reciting both the inlet and the suction chamber of the root blower to the independent claims.

For now, the rejection has been maintained as follows.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 21, 24-27, 35-36, 38-39, 42, 44-46, are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 2003/0172654 (Lawheed) in view of US 5027602 (Glen et al). Lawheed discloses an engine 42 with rotors 100 forming a roots blower with double lobes in figure 6, an evaporator 26, and a condenser 46; regarding new claims 44-46, note the outlet pipe of the injection pump 18 can be considered as the suction chamber of the expander too because it's connected directed to the expander.

Lawheed does not disclose a portion of the condensed working fluid is supplied into the roots blower. Glen et al discloses a thermodynamic cycle comprising a boiler 10, a two-phase expander 12, a condenser 16, a pump 18 with liquid spray nozzle 20 for spraying a portion of condensed fluid into the intake of said expander 12. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a bypass including a pump, a liquid nozzle in Lawheed as taught by Glen et al for the purpose of producing appropriate amount of power based on the characteristics of said two-phase fluid.

Claims 41, 43, are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 2003/0172654 (Lawheed) in view of US 4429661 (McClure) and US 5027602 (Glen et al). Lawheed as modified by Glen et al discloses all the claimed subject matter as set forth above in the rejection of claim 21, but Lawheed does not disclose a triple lobes rotor. McClure discloses it's well known to use triple-blades roots blower 60, 140, in a heat power plant with an evaporator 120. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use triple blade roots

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blower in the system of Lawheed as taught by McClure for the purpose of improving the flow rates by the triple blades rotor.

Claims 28-34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 2003/0172654 (Lawheed) in view of McClure, Glen et al, and WO 85/02881 (Lipovetz et al). Lawheed as modified by McClure and Glen et al discloses all the claimed subject matter as set forth above in the rejection of claim 21, but does not disclose absorbent step. Lipovetz et al is relied upon to disclose it's well known in a closed cycle system to have an engine 3 with expansion step, then after expansion, a component of the working substance is absorbed using an absorption agent (note page 7, lines 20-30). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide an absorption agent in the system of Lawheed as taught by Lipovetz et al for the purpose of achieving appropriate temperature as claimed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hoang M Nguyen/  
Primary Examiner, Art Unit 3748

HOANG NGUYEN  
PRIMARY EXAMINER  
ART UNIT 3748

Hoang Minh Nguyen  
8/10/2011

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